

# Videographic Monitoring of Non-Wadable Streams in Southeast Coast Network Parks

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**Abstract.** The National Park Service Inventory and Monitoring Program was initiated to inventory natural resources, monitor ecosystems, and provide points of reference to understand the dynamic nature and condition of natural resources and ecosystems within their management units. The Southeast Coast Network (SECN) Non-Wadable Stream Habitat Monitoring Protocol was developed to provide data that will give park resource managers insight into the status of, and trends in, bank conditions and riparian habitats in their network. Non-wadable stream monitoring, currently implemented at five SECN parks, involves videographic documentation of the entire stretch of stream in each park using a GPS-enabled dual camera (Chase cam) system. Surveys will be repeated every three to five years to provide a long-term understanding of the condition of non-wadable streams in the SECN. Areas of interest (AOI), including bank erosion and illegal structures, will be identified in the field and upon review of the video, spatially documented, and disseminated to park managers. Additionally, stills extracted from the video record will be used to produce three-dimensional (3D) models using a photogrammetric range imaging approach called “structure from motion”. Secondary surveys near the AOI will provide a spatial reference (e.g. distance between two or more relative benchmarks) that will allow subsequent surveys and 3D models to provide a semi-quantitative measure of change. This protocol will help highlight known issues related to non-wadable streams in the SECN and provide early warnings of changing conditions, helping inform managers of appropriate techniques or procedures that may be required.